Gallatin City-County Health Code
Chapter 3

Regulations for Wastewater Treatment Systems
Effective June 27, 2004

The following sources are adopted by reference

1) Circular DEQ 4, "Montana Standards for Subsurface Wastewater Treatment Systems", latest edition. (Note: See the Gallatin City-County Health Code Chapter 3 for changes)

2) 17.36.911 to 17.36.914(5), ARM, and 17.36.914(7) to 17.36.924 ARM. "Subsurface Wastewater Treatment Systems".

3) 17.36.101 ARM; 17.36.320 to 322 ARM; 17.36.324 to 325 ARM; 17.36.326(1) ARM; 17.36.326(3) ARM; 17.36.326(4); and 17.36.327 ARM "Subdivisions/On-Site Subsurface Wastewater Treatment, Sewage Systems". (Note: Any referral to "the department" in Title 17, Chapter 36, SubChapters 1 and 3 means GCCHD.)

Sub-chapter 1

Subdivision Application and Review

17.36.101 DEFINITIONS (1) "Bedrock" means material that cannot be readily excavated by hand tools, or material that does not allow water to pass through or that has insufficient quantities of fines to provide for the adequate treatment and disposal of wastewater.

(2) "Bedroom" means any room that is or may be used for sleeping. An unfinished basement is considered as an additional bedroom.

(3) "Campground" is defined in 50-52-10150-52-101, MCA.

(4) "Certificate of survey" is defined in 76-3-10376-3-103, MCA.

(5) "Cesspool" means a seepage pit without a septic tank to pretreat the wastewater.

(6) "Condominium" is defined in 70-23-10170-23-101, MCA.

(7) "Connection" means a water or wastewater line that connects a single building or living unit to a shared, multiple user or public water or wastewater system.

(8) "Department" means the Montana department of environmental quality.

(9) "Deviation" means a department-approved departure from a requirement contained in a department circular.

(10) "Drainageway" means a course or channel along which storm water moves in draining an area.

(11) "Dry well" means a storm water detention structure that collects surface runoff and discharges the water below the natural ground surface.

(12) "Dwelling" or "residence" means any structure, building, or portion thereof, which is intended or designed for human occupancy and supplied with water by a piped water system.

(13) "Escarpment" means any slope greater than 50% that extends vertically six feet or more as measured from toe to top.

(14) "Experimental system" means a wastewater treatment system for which specific design standards are not provided in department Circular DEQ-4 or DEQ-2.

(15) "Floodplain" means the area adjoining the watercourse or drainway that would be covered by the floodwater of a flood of 100-year frequency except for sheetflood areas that receive less than one foot of water per occurrence and are considered zone b areas by the federal emergency management agency. The floodplain consists of the floodway and the floodfringe, as defined in ARM 36.15.10136.15.101.

(16) "Ground water monitoring" means measuring the depth from the natural ground surface to the seasonally high ground water for a long enough period of time to detect a peak and then a sustained decline in the ground water level.

(17) "Holding tank" means a watertight receptacle that receives wastewater for retention and does not as part of its normal operation dispose of or treat the wastewater.

(18) "Impervious layer" means any layer of material in the soil profile that has a percolation rate slower than 120 minutes per inch.

(19) "Individual water system" means any water system that serves one living unit or commercial structure. The total number of people served may not exceed 24.

(20) "Individual wastewater system" means a wastewater system that serves one living unit or commercial structure. The total number of people served may not exceed 24.

(21) "Limiting layer" means bedrock, an impervious layer, or seasonally high ground water.

(22) "Living unit" means the area under one roof occupied by a family. For example, a duplex is considered two living units.

(23) "Local health officer" means health officer as defined in 50-2-10150-2-101, MCA, or the health officer's designee.

(24) "Lot" is synonymous with "tract" or "parcel" for purposes of this chapter.

(25) "Mixing zone" is defined in 75-5-10375-5-103, MCA.

(26) "Mobile home" means a trailer equipped with necessary service connections that is designed for use as a long-term residence.

(27) "Multiple user wastewater system" means a non-public wastewater system that serves or is intended to serve three through 14 living units or three through 14 commercial structures. The total number of people served may not exceed 24. In estimating the population served, the reviewing authority shall multiply the number of living units times the county average of persons per living unit based on the most recent census data.

(28) "Multiple user water supply system" means a non-public water supply system designed to provide water for human consumption to serve three through 14 living units or three through 14 commercial structures. The total number of people served may not exceed 24. In estimating the population served, the reviewing authority shall multiply the number of living units times the county average of persons per living unit based on the most recent census data.

(29) "Municipal" means pertaining to an incorporated city or town.

(30) "Natural soil" means soil that has developed through natural processes and to which no fill material has been added.

(31) "Parcel" means a part of land which is created by a division of land or a space in an area used for recreational camping vehicles or mobile homes.

(32) "Percolation test" means a standardized test used to assess the infiltration rate in soils.

(33) "Piped water system" means a plumbing system that conveys water into a structure from any source including, but not limited to, wells, cisterns, springs, or surface water.

(34) "Plat" is defined in 76-3-10376-3-103, MCA.

(35) "Preliminary plat" is defined in 76-3-10376-3-103, MCA.

(36) "Public wastewater system" means a system for collection, transportation, treatment, or disposal of wastewater that serves 15 or more families or 25 or more persons daily for a period of at least 60 days in a calendar year. In estimating the population served, the department shall multiply the number of living units times the county average of persons per living unit based on the most recent census data.

(37) "Public water supply system" means a system for the provision of water for human consumption from a community well, water hauler for cisterns, water bottling plant, water dispenser, or other water supply that has at least 15 service connections or that regularly serves at least 25 persons daily for any 60 or more days in a calendar year.

(38) "Recreational camping vehicle" means a vehicle that is used for non-permanent residence and is moved frequently.

(39) "Redoximorphic features" or "mottling" means soil properties associated with wetness that results from the reduction and oxidation of iron and manganese compounds in the soil after saturation and desaturation with water.

(40) "Reviewing authority" is defined in 76-4-10276-4-102, MCA.

(41) "Sealed pit privy" means an enclosed receptacle designed to receive non-water-carried toilet wastes into a watertight vault.

(42) "Seasonally high ground water" means depth from the natural ground surface to the upper surface of the zone of saturation, as measured in an unlined hole or perforated monitoring well during the time of the year when the water table is the highest. The term includes the upper surface of a perched water table.

(43) "Seepage pit" means a covered underground receptacle that receives wastewater after primary treatment and allows the wastewater to seep into the surrounding soil.

(44) "Septic tank" means a storage settling tank in which settled sludge is in immediate contact with the wastewater flowing through the tank while the organic solids are decomposed by anaerobic action.

(45) "Sewage" is synonymous with "wastewater" for purposes of this chapter.

(46) "Shared wastewater system" means a wastewater system that serves or is intended to serve two living units or commercial structures. The total number of people served may not exceed 24.

(47) "Shared water system" means a water system that serves or is intended to serve two living units or commercial structures. The total number of people served may not exceed 24. In estimating the population served, the reviewing authority shall multiply the number of living units times the county average of persons per living unit based on the most recent census data.

(48) "Site evaluation" means an evaluation to determine if a site is suitable for the installation of a subsurface wastewater treatment system.

(49) "Slope" means the rate that a ground surface declines in feet per 100 feet. It is expressed as percent of grade.

(50) "Soil consistence" means the attributes of soil material as expressed in degree of cohesion and adhesion or in resistance to deformation or rupture. See appendix B of department Circular DEQ-4.

(51) "Soil profile" means a description of the soil strata to a depth of eight feet using the USDA soil classification system.

(52) "Soil structure" means the combination or arrangement of primary soil particles into secondary units or peds. See appendix B of department Circular DEQ-4.

(53) "Soil texture" means the amount of sand, silt or clay measured separately in a soil mixture. See appendix B of department Circular DEQ-4.

(54) "Spring" means natural opening in the earth's surface from which water issues or seeps.

(55) "Septic tank" means a storage settling tank in which settled sludge is in immediate contact with the sewage flowing through the tank while the organic solids are decomposed by anaerobic bacterial action.

(56) "State waters" is defined in 75-5-10375-5-103, MCA.

(57) "Subsurface wastewater treatment system" means the process of wastewater treatment in which the effluent is applied below the soil surface or into a mound by an approved distribution system.

(58) "Surface water" means any water on the earth's surface including, but not limited to, streams, lakes, ponds, reservoirs, and irrigation ditches, whether fresh or saline.

(59) "Unstable land forms" means areas showing evidence of mass down-slope movement such as hummock hill slopes, debris flows, landslides, and rock falls. Unstable land forms may be evidenced by slip surfaces roughly parallel to the hillside; landslide scars and carving debris ridges; fences, trees, or telephone poles which appear tilted; or tree trunks which bend uniformly as they enter the ground.

(60) "Waiver" means a department-approved departure from a requirement contained in department rules. Granting of waivers must be in accordance with ARM 17.36.60117.36.601.

(61) "Wastewater" means water-carried waste that is discharged from a dwelling, building, or other facility, including:

(a) household, commercial, or industrial wastes;

(b) chemicals;

(c) human excreta; or

(d) animal and vegetable matter in suspension or solution.

(62) "Wastewater treatment system" or "wastewater disposal system" means a system that receives wastewater for purposes of treatment, storage, or disposal. The term includes, but is not limited to, pit privies and experimental systems.

(63) "Well" means an artificial excavation that derives water from the interstices of rocks or soil which it penetrates.

(64) "Zone of saturation" means the area beneath the ground in which all open spaces are filled with groundwater.

17.36.320 SEWAGE SYSTEMS: DESIGN (1) All components of subsurface sewage treatment systems must be designed and installed in accordance with department Circular DEQ-4. As indicated on Table 2 of this rule, public systems and multi-user systems with design flows greater than or equal to 2500 gallons per day must be designed by a registered professional engineer.

(2) A minimum separation of at least four feet of natural soil must exist between the infiltrative surface or the liner of a lined system and a limiting layer, except that at least six feet of natural soil must exist on a steep slope (15% to 25%).

(3) The proposed subsurface sewage treatment area must include an area for 100% replacement of the system. Unless a waiver is approved by the department pursuant to ARM 17.36.601, the replacement area must meet the same requirements as the primary area. If the replacement area is not immediately adjacent to the primary area, or if the department indicates to the applicant that it has reason to believe that site conditions for the replacement area may vary from those for the primary area, the applicant shall submit adequate evidence of the suitability of the replacement area.

TABLE 2
ALLOWABLE SYSTEMS, REQUIREMENTS

	YES - Systems that are allowed NO - Systems that are not allowed			
DEQ-4 System	Public: > 5000 gpd (1) (7)	Public or Multiple-user: ≥ 2500 gpd and ≤ 5000 gpd (2) (7)	Public or Multiple-user: < 2500 gpd (3)	Individual /Shared: (6)
Standard Absorption Trench	NO	NO	YES	YES
At-Grade Systems	NO	NO	YES	YES
Gravelless	YES	YES	YES	YES
Deep Trench	NO	NO	NO	YES
Elevated Sand Mound	YES	YES	YES	YES
Evapotranspiration (ET) Systems	NO	NO	NO	NO (5)
ET-Absorption	NO	YES	YES	YES
Intermittent Sand Filters	YES	YES	YES	YES
Recirculating Sand Filters	YES	YES	YES	YES
Recirculating Trickling Filters	YES	YES	YES	YES

	YES - Systems that are allowed NO - Systems that are not allowed			
DEQ-4 System	Public: > 5000 gpd (1)	Public or Multiple-user: ≥ 2500 gpd and ≤ 5000 gpd (2)	Public or Multiple-user: < 2500 gpd (3)	Individual /Shared: (6)
Chemical Nutrient Reduction; Aerobic Sewage Treatment Systems	NO (5)	NO (5)	NO (5)	NO (4)(5)
Pressure Distribution	YES	YES	YES	YES
Sand-lined Absorption Trenches	NO	YES	YES	YES
Experimental Systems	NO (5)	NO (5)	NO (5)	NO (5)

(1) Public systems with design flow greater than 5000 gallons per day (gpd).

(2) Public or multiple-user systems with design flow greater than or equal to 2500 gpd and less than or equal to 5000 gpd.

(3) Public or multiple-user systems with design flow less than 2500 gpd.

(4) Means of securing continuous operation and maintenance of these systems must be approved by the reviewing authority prior to DEQ approval.

(5) May be allowed by waiver, pursuant to ARM 17.36.601.

(6) Individual or shared commercial sewage systems that have a design flow greater than 700 gpd shall be considered multi-user.

(7) Must be designed by a professional engineer. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2002 MAR p. 1465, Eff. 5/17/02; AMD, 2003 MAR p. 221, Eff. 2/14/03.)

17.36.321 SEWAGE SYSTEMS: ALLOWABLE NEW AND REPLACEMENT SYSTEMS (1) The allowable new sewage treatment systems, together with certain other requirements for such systems, are indicated in Table 2 of ARM 17.36.320. All systems must be designed and installed in accordance with department Circular DEQ-4. The use of sewage systems for replacement systems shall be in accordance with department Circular DEQ-4. Requirements applicable to review of existing sewage treatment systems are set out in ARM 17.36.327.

(2) Systems designed in accordance with department Circular DEQ-2, may not be used for individual, shared, or multi-user systems.

(3) The following sewage systems may not be used for new systems:

(a) cut systems;

(b) fill systems;

(c) artificially drained systems;

(d) cesspools;

(e) pit privies;

(f) seepage pits; and

(g) holding tanks.

(i) The department may grant a waiver, pursuant to ARM 17.36.601, to allow holding tanks for recreational vehicle dump stations in facilities owned and operated by a local, state, or federal unit of government, or in facilities licensed by the department of public health and human services and inspected by the local health department. Holding tanks must be designed and maintained in accordance with the requirements in department Circular DEQ-4 and all other requirements imposed by the department and local health department.

(4) The following systems may be used only as replacement systems, subject to the limitations provided in department Circular DEQ-4:

(a) cut systems;

(b) fill systems; and

(c) artificially drained systems.

(5) Sealed pit privies may be used only in facilities owned and operated by a local, state, or federal unit of government, or in facilities where use of a sealed pit privy is authorized by the department of public health and human services. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2003 MAR p. 221, Eff. 2/14/03.)

17.36.322 SEWAGE SYSTEMS: SITING (1) Subsurface sewage treatment systems may not be used if natural slopes are greater than 15%; however, the department may, by waiver granted pursuant to ARM 17.36.601, allow a sewage treatment system with a design flow of 5000 gallons per day or less on slopes between 15% and 25%, if a registered professional engineer or a person

qualified to evaluate and identify soil in accordance with ASTM standard D5921-96el (Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems) submits adequate evidence that there will be no visible outflow of liquid downslope from the subsurface sewage treatment system.

(2) Subsurface sewage systems may not be installed on unstable landforms, as defined in ARM 17.36.320.

(3) No component of any sewage treatment system may be located under structures or driveways, parking areas or other areas subjected to vehicular traffic, except for those components of the system designed to accommodate such conditions. Drainfields must not be located in swales or depressions where runoff may flow or accumulate.

(4) For lots one acre in size or less, the applicant shall physically identify the drainfield location by staking or other acceptable means of identification. For lots greater than one acre in size, the department may require the applicant to physically identify the drainfield location.

(5) The department may require the applicant to show detailed lot layouts on a contour map if the department determines that there is a question about suitability of the drainfield location. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00.)

17.36.323 SEWAGE SYSTEMS: HORIZONTAL SETBACKS; WAIVERS

(1) Minimum horizontal setback distances (in feet) shown in Table 3 of this rule must be maintained.

(2) A waiver of the setback distance for a cistern may be granted by the department, pursuant to ARM 17.36.601, if the applicant demonstrates that the elevation of the cistern is higher than the elevation of the septic tank, other components, or drainfield/sand mound.

(3) A waiver of the setback distance between drainfields/sand mounds and surface waters, springs, and floodplains may be granted by the department, pursuant to ARM 17.36.601, only if:

(a) the applicant demonstrates that ground water flow at the drainfield site cannot flow into the surface water or spring; or

(b) the surface water or spring seasonally high water level is a minimum of 100 feet horizontal distance from the drainfield and the bottom of the drainfield will be at least two feet above floodplain elevation.

(4) The department may require more than 100 feet of separation from the floodplain or from surface water or springs if it determines that site conditions or water quality nondegradation requirements indicate a need for the greater distance.

TABLE 3
SETBACK DISTANCES

	Water Supply Wells	Sealed Components (1) and Other Components (2)	Drainfield/ Sand Mounds
Public or Multi-user Wells/Springs	-	100	100
Other Wells	-	50	100
Suction Lines	-	50	100
Cisterns	-	25	50
Roadcuts, Escarpment	-	10 (3)	25
Slopes > 25% (4)	-	10 (3)	25
Property Boundaries	10	10	10
Subsurface Drains	-	10	10
Water Lines	-	10	10
Drainfields/ Sand Mounds	100	10	-
Foundation Walls	-	10	10
Surface Water, Springs	100 (5)	50	100
Floodplains	10	- (1) 100 (2)	100

(1) Sealed components include sewer lines, sewer mains, septic tanks, grease traps, dosing tanks and pumping chambers.

(2) Other components include intermittent and recirculating sand filters, package plants and evapotranspiration systems.

(3) Sewer lines and sewer mains may be located in roadways and on steep slopes if the lines and mains are safeguarded against damage.

(4) Down-gradient of the sealed component, other component, or drainfield/sand mound.

(5) A waiver of this requirement may be granted by the department pursuant to ARM 17.36.601. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00.)

17.36.324 SEWAGE SYSTEMS: FLOODPLAINS (1) The applicant shall identify the location of any floodplain on the lot layout document. The department may require the applicant to provide additional information, such as elevations at specific locations.

(2) The applicant shall submit evidence adequate to allow the department to establish the location of the floodplain if:

(a) the federal or state government has not designated the floodplain, or if the location of the floodplain is in question with respect to a proposed subdivision; and

(b) the stream is shown as an intermittent or perennial stream on the most current USGS 7 1/2 minute (1:24,000) topographic map (unless the applicant provides adequate information that the stream is not subject to flooding). (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00.)

17.36.325 SEWAGE SYSTEMS: SITE EVALUATION (1) The reviewing authority may require that percolation tests, conducted in accordance with department Circular DEQ-4, be performed within the boundary of each proposed subsurface sewage treatment system. Percolation tests must be keyed by a number on the lot layout to the results in the report form.

(2) If the applicant or the department has reason to believe that ground water will be within seven feet of the surface at any time of the year within the boundaries of the treatment system, the applicant shall install ground water level observation pipes to a depth of at least eight feet to determine the seasonally high ground water level. The applicant shall monitor the observation pipes through the seasonally high ground water period.

(3) The applicant shall provide descriptions of the soils within 25 feet of the boundaries of each proposed drainfield. Soil descriptions must address the characteristics used in the U.S. Department of Agriculture's National Soil Survey Handbook (USDA, NRCS, September 1999), and the Soil Survey Manual (USDA, October 1993). These characteristics include, but are not limited to, soil texture, soil structure, soil consistence and indicators of redoximorphic features. Soil descriptions must meet the following requirements:

(a) Soil descriptions for the proposed subdivision must be based on data obtained from test holes. Test holes must be at least eight feet in depth;

(b) At least one test hole must be dug for each individual drainfield and for each shared (two-user) drainfield, unless a waiver is approved by the department pursuant to ARM 17.36.601. Before a waiver is requested and granted, the applicant must complete test holes for 25% of the proposed drainfield locations in the subdivision, demonstrate that the soils are consistent throughout the area requested for a waiver, and must obtain the approval of the local reviewing authority for reduction in number of test holes. At least three test holes must be dug for each multiple-user and public drainfield, unless a waiver is approved by the department pursuant to ARM 17.36.601. At least one test hole must be dug in each zone of a pressure-dosed drainfield, unless a waiver is approved by the department pursuant to ARM 17.36.601. The department shall require additional test holes if it determines that there is significant variability of the soils in the proposed drainfield area;

(c) Test holes must be located within 25 feet of the boundaries of the proposed drainfield. The locations must be established by a person qualified to evaluate and identify soil in accordance with ASTM standard D5921-96el (Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems);

(d) If the applicant or the department has reason to believe that a limiting layer is within seven feet of the ground surface at the site of proposed subsurface sewage treatment systems, additional test pits and soil descriptions sufficient to describe the suitability of the soil must be provided; and

(e) Each test hole must be keyed by a number on a copy of the lot layout or map with the information provided in the report. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2002 MAR p. 1465, Eff. 5/17/02; AMD, 2003 MAR p. 221, Eff. 2/14/03.)

17.36.326 SEWAGE SYSTEMS: AGREEMENTS AND EASEMENTS

(1) The applicant shall demonstrate that all public, multiple-user, and shared sewage systems will be adequately operated and maintained and shall submit an operation and maintenance manual acceptable to the department.

(2) For public and multiple-user systems, a homeowners' association, county sewer district, or other administrative entity, with the power to charge appropriate fees, must be established as part of the operation and maintenance plan required by department Circular DEQ-4.

(3) For public, multiple-user, and shared systems, easements must be obtained to allow adequate operation and maintenance of the system. Easements must be in a form acceptable to the department.

(4) Users of shared sewage systems must have an agreement that identifies the rights of each user. Shared user agreements must be in a form acceptable to the department. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2003 MAR p. 221, Eff. 2/14/03.)

17.36.327 SEWAGE SYSTEMS: EXISTING SYSTEMS (1) If an existing sewage treatment system is present, the department shall review the adequacy of the existing system for the proposed use and the capability of the existing system to operate without risk to public health and without pollution of state waters. To assist the department in making this determination, the applicant shall submit the following information:

(a) evidence demonstrating the proper hydraulic functioning of each existing system;

(b) evidence as to whether each existing system complied with state and local laws and regulations, including permit requirements, applicable at the time of installation; and

(c) evidence that each existing septic tank was pumped within three years prior to the department's review unless the existing septic tank is less than five years old.

(2) Unless a waiver is approved by the department pursuant to ARM 17.36.601, the drainfields and sand mounds for existing systems must be located at least 100 feet from wells.

(3) The applicant shall provide for a replacement area for each existing system. Unless a waiver is approved by the department pursuant to ARM 17.36.601, replacement areas must comply with the requirements of this subchapter.

(4) Existing cesspools, pit privies, and holding tanks must be replaced by a system approved under this subchapter. Existing sealed pit privies must also be replaced, unless they are at a facility owned and operated by a local, state, or federal unit of government, or are at a facility where use of a sealed pit privy is authorized by the department of public health and human services. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2002 MAR p. 1465, Eff. 5/17/02.)

17.36.328 PUBLIC WATER SUPPLY AND WASTEWATER SYSTEMS

(1) A proposed subdivision must be connected to a public water supply or wastewater system if any boundary of the subdivision is within 500 feet of the public system and the public system meets the requirements of (2)(a) and (b). The department may grant a waiver, pursuant to ARM 17.36.601, of the requirement to connect to a public system if the applicant demonstrates that connection to the public system is physically or economically impractical, or that easements can not be obtained. For purposes of this rule, a connection is economically practical if the cost of connection is less than